

Target Specification

S-50A30-Jx/CXP



CoaXPress

Key characteristics

50Mpx 4.6 μm^2	7920 6004	30 FPS
CMOS 8T Global Shutter	46mm Optical format	<9W
<80mm ³	<400g	60dB DNR

Introduction

The Sapphire 50 Mpx CoaXPress camera delivers 7920x6004 pixel resolution at over 30 fps with 4.6 micron square pixels. Camera is fully compatible with S25 and Q12 CoaXPress Adimec offers the Sapphire 50 Mpx CXP cameras in a low power, compact outline design without forced cooling through a fan. This provides an optimal design freedom for system integration with a maximum system reliability. The S-50A30 offers Connect-and-Grab™ service allowing engineers to start system development immediately after camera installation. The camera has a stable image performance to minimize customers' system calibration time. Typical applications examples: - Flat panel inspection - Semiconductors metrology tools - Solar Inspection

- 50 Megapixel at 30 fps
- AMS Cmosis CMV50000 sensor
- True Global Shutter CMOS
- Monochrome and Color
- PRNU and DSNU calibrated corrections
- Configurable single, dual and quad CXP3 to CXP6 speeds
- Hirose 12pin I/O connector
- Adimec Connect & Grab™ support
- Compatible to CoaXPress V1.1.1 frame grabbers

Adimec
Excellence in Imaging

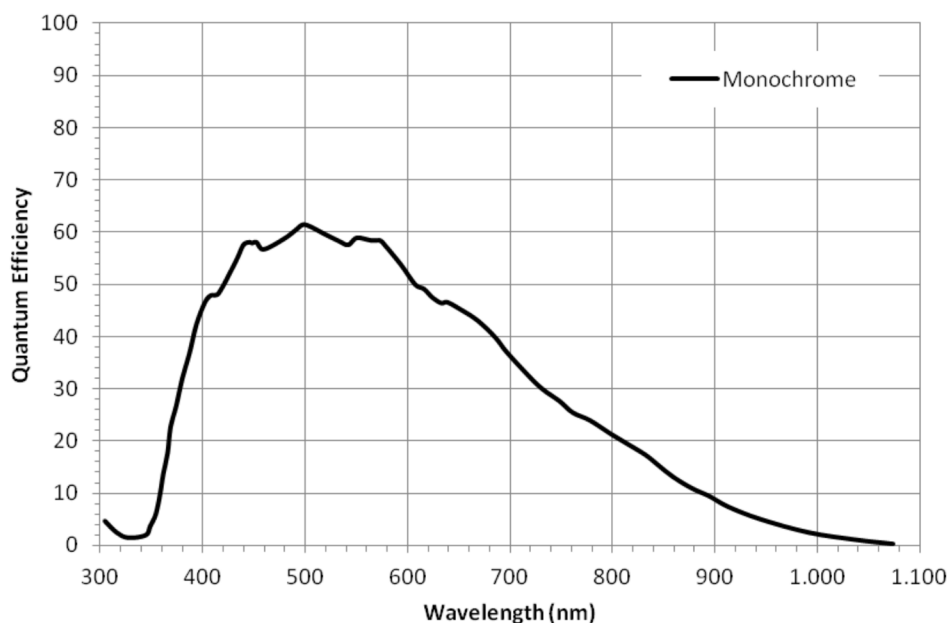
High Resolution Metrology Camera

Performance

S-50A30-Jx/CXP

Type	AMS Cmosis CMV50000 sensor
Architecture	CMOS Progressive scan 8T Global Shutter (PLS <1/18000)
Optical format	46mm
Pixel size	4.6 μ m x 4.6 μ m
Active pixels	7920 (H) x 6004 (V)
microlenses	Yes
Dynamic range Typical value	TBD dB Linear / 60 dB sensor specification
Sensitivity	TBD

Quantum Efficiency



Functionality

Image acquisition	Continuous / Controlled
Integration time control	TBD
Gain	Digital fine gain selectable between 1x and 32x in steps of 0.001
Video Processing	Automatic black level control loop – Automatic dark field shading -Manual/One push White Balance - User programmable LUT in output stream (10 bit) correction
Defect pixel correction	On/Off switchable – Review and editing of defect pixel map - Factory calibrated
Test mode	Internal test pattern generator available for checking of the complete digital image chain
Region of interest	Programmable ROI; size and position of readout image. Increased frame speed via ROI
Miscellaneous functions	Programmable I/O polarity - Storage for 4 user defined camera settings - Camera type, build state and serial number can be read via software

Interfacing

Video

Video output	CoaxPress V1.1.1 CXP3/6 1, 2,4 lanes configurable
External Sync	I/O or CXP controlled
Output resolution	8 / 10 / 12 bit
Connector	4 x DIN1.0/2.3 (Figure 1)

Camera Control Protocol

Interface	GeniCam via CoaxPress
Throughput	20Mbps
Protocol	GenTL

I/O

Output	single ended LVCMOS33 Flash strobe function
Input	single ended LVCMOS33 Trigger function
Connector	Hirose 12 pin (figure 2)

Power

Input voltage	24Vdc PoCXP
Power dissipation	<9W @ 24Vdc full continuous operation at maximal framespeed.
Power connector	DIN1.0/2.3 CoaXPress Masterlink (figure 1)

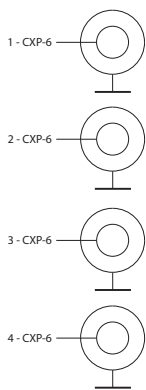


Figure 1: Quad CXP DIN1.0/2.3

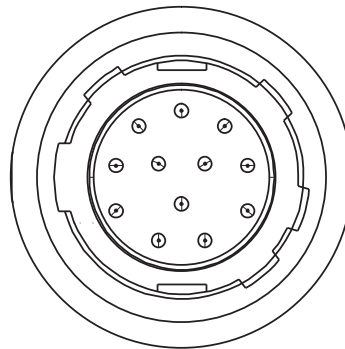


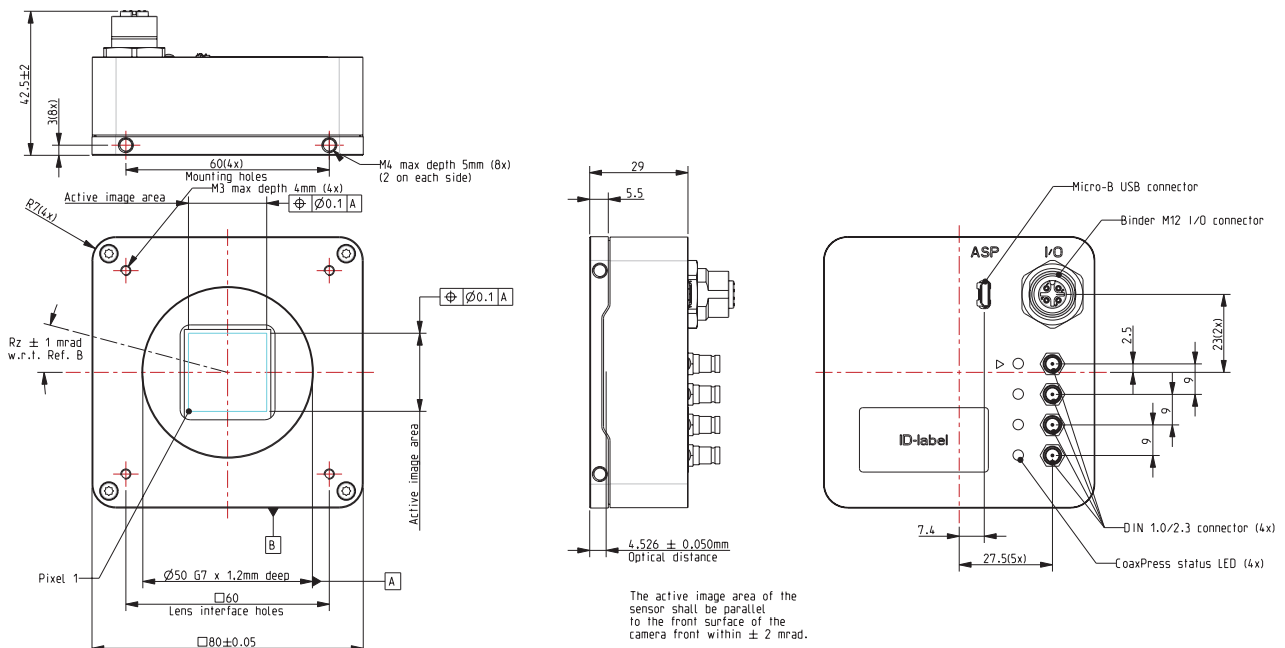
Figure 2: Hirose 12 pin I/O connector

High Resolution Metrology Camera

Mechanical

Mounting	2 M3 mounting holes per side on camera front
Lensmount	4 x M3 at 60mm pitch - 50mm G7 reference (Optional: F,M42,T2,TFLII,EF, C-mount)
Outline Cameras	See figure 3
Weight	400g +/- 5% excl. lensmount

Figure 3: Mechanical outline



Sensor Mounting Accuracy

XY-centering	± 0,050mm
Rotation	± 1mRad
Optical distance	4.526 ± 0.050mm
Perpendicularity	± 2mRad

Compliance & Reliability

RoHS

Directive	2011/65/EU
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CE-mark

Electromagnetic compatibility	2004/108/EC: EN61000-6-4 and EN61000-6-2
Workmanship	In accordance with IPC-J-STD-001 class 3 and inspected according IPC-A-610C class 3

Reliability

MTBF	> 75.000h @ 30°C
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High Resolution Metrology Camera

Environmental

Operating

Temperature	-10°C to +30°C or max housing temp 50°C
Humidity (relative)	20% - 80% non-condensing
Shock	10g, half sine shape, 6-10ms duration
Acceleration	t.b.d.
Vibration	3g sinusoidal vibration sweeps 5-150Hz
ESD	Contact discharge +/- 4 kV; Air discharge +/- 8 kV

Storage

Temperature	-25°C to +65°C
Humidity (relative)	5% - 95% non-condensing
Acceleration	t.b.d.
Shock	25g, half sine shape, 6-10ms duration
Vibration	10g sinusoidal vibration sweeps 5 - 150Hz

Camera Types	Interface connector	Power I/O connector	Sensor	Type	Max. fps @ Full resolution
S-50A30-Jm/CXP	4 x DIN1.0/2.3	Hirose 12 pin	CMV50000xxxx	Monochrome	30 fps
S-50A30-Jc/CXP	4 x DIN1.0/2.3	Hirose 12 pin	CMV50000xxxx	Raw Bayer	30 fps

Adimec

Adimec is the leading supplier of high-end cameras for machine vision, medical and outdoor imaging applications. Our Adimec True Accurate Imaging® technology forms the foundation for a broad range of camera products, and brings new levels of precision and accuracy to vision systems.

Custom cameras

Adimec has the ability to offer additional camera functionality and create customer specific cameras even for small volume programs. Built from platforms, our standard line of cameras give us a flexible base that can be tailored to fit your specifications. Contact us to discuss these options in more detail. Visit: www.adimec.com for product details.



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